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1 [Information extraction and text segmentation: AuGEAS: authoritativeness grading, estimation, and sorting](#)



Ayman Farahat, Geoff Nunberg, Francine Chen

November 2002

Proceedings of the eleventh international conference on Information and knowledge managementFull text available: [pdf\(135.62 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

When searching for content in a large heterogeneous document collections like the World Wide Web it is not easy to know which documents provide reliable authoritative information about a subject. The problem is particularly pointed as it concerns content search for "high-value" informational needs such as retrieving medical information, where the cost of error may be high. In this paper, a method is described for estimating the authoritativeness of a document based on *textual*, non-topi ...

2 [Link Analysis: Web page scoring systems for horizontal and vertical search](#)



Michelangelo Diligenti, Marco Gori, Marco Maggini

May 2002 **Proceedings of the eleventh international conference on World Wide Web**Full text available: [pdf\(243.92 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Page ranking is a fundamental step towards the construction of effective search engines for both generic (*horizontal*) and focused (*vertical*) search. Ranking schemes for horizontal search like the PageRank algorithm used by Google operate on the topology of the graph, regardless of the page content. On the other hand, the recent development of vertical portals (*vortals*) makes it useful to adopt scoring systems focussed on the topic and taking the page content into account. In ...

Keywords: Focused PageRank, HITS, PageRank, random walks, web page scoring systems

3 [Link analysis: Link fusion: a unified link analysis framework for multi-type interrelated data objects](#)



Wensi Xi, Benyu Zhang, Zheng Chen, Yizhou Lu, Shuicheng Yan, Wei-Ying Ma, Edward Allan Fox

May 2004 **Proceedings of the 13th international conference on World Wide Web**Full text available: [pdf\(510.05 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Web link analysis has proven to be a significant enhancement for quality based web search. Most existing links can be classified into two categories: intra-type links (e.g., web hyperlinks), which represent the relationship of data objects within a homogeneous data type (web pages), and inter-type links (e.g., user browsing log) which represent the relationship of data objects across different data types (users and web pages). Unfortunately, most link analysis research only considers one type of ...

Keywords: data fusion, information retrieval, link analysis algorithms, link fusion

4 Information retrieval session 7: web: Representing interests as a hyperlinked document collection

Michelle Fisher, Richard Everson

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management**

Full text available:  pdf(111.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


We describe a latent variable model for representing a user's interests as a hyperlinked document collection. By collecting hyper-text documents that a user views, creates or updates whilst at their computer, we are able to use not only the content of these documents but also the inter-connectivity of the collection to model the user's interests. The model uses Probabilistic Latent Semantic Analysis and Probabilistic Hypertext Induced Topic Selection and decomposes the user's document collection ...

Keywords: hyperlinked/hypertext document collections, information access, latent variable models, user interests

5 Local versus global link information in the Web

Pável Calado, Berthier Ribeiro-Neto, Nivio Ziviani, Edleno Moura, Ilmério Silva

January 2003 **ACM Transactions on Information Systems (TOIS)**, Volume 21 Issue 1

Full text available:  pdf(413.06 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


Information derived from the cross-references among the documents in a hyperlinked environment, usually referred to as link information, is considered important since it can be used to effectively improve document retrieval. Depending on the retrieval strategy, link information can be local or global. Local link information is derived from the set of documents returned as answers to the current user query. Global link information is derived from all the documents in the collection. In th ...

Keywords: Belief networks, World Wide Web, link analysis, local and global information

6 Web Information Retrieval: The Importance of Prior Probabilities for Entry Page Search

Wessel Kraaij, Thijs Westerveld, Djoerd Hiemstra

August 2002 **Proceedings of the 25th annual international ACM SIGIR conference on Research and development in information retrieval**

Full text available:  pdf(135.87 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An important class of searches on the world-wide-web has the goal to find an entry page (homepage) of an organisation. Entry page search is quite different from Ad Hoc search. Indeed a plain Ad Hoc system performs disappointingly. We explored three non-content features of web pages: page length, number of incoming links and URL form. Especially the URL form proved to be a good predictor. Using URL form priors we found over 70% of all entry pages at rank 1, and up to 89% in the top 10. Non-content ...

Keywords: URLs, entry page search, language models, links, parameter estimation, prior probabilities

7 Stable algorithms for link analysis

Andrew Y. Ng, Alice X. Zheng, Michael I. Jordan

September 2001 **Proceedings of the 24th annual international ACM SIGIR conference on Research and development in information retrieval**

Full text available:  pdf(208.24 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Kleinberg HITS and the Google PageRank algorithms are eigenvector methods for identifying "authoritative" or "influential" articles, given hyperlink or citation information. That such algorithms should give reliable or consistent answers is surely a desideratum, and in~\cite{ijcaiPaper}, we analyzed when they can be expected to give stable rankings under small perturbations to the linkage patterns. In this paper, we extend the analysis and show how it gives insight into ways of de ...

8 Research track papers: Web usage mining based on probabilistic latent semantic analysis

Xin Jin, Yanzan Zhou, Bamshad Mobasher


August 2004 **Proceedings of the 2004 ACM SIGKDD international conference on Knowledge discovery and data mining**Full text available:  pdf(747.27 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The primary goal of Web usage mining is the discovery of patterns in the navigational behavior of Web users. Standard approaches, such as clustering of user sessions and discovering association rules or frequent navigational paths, do not generally provide the ability to automatically characterize or quantify the unobservable factors that lead to common navigational patterns. It is, therefore, necessary to develop techniques that can automatically discover hidden semantic relationships among use ...

Keywords: PLSA, Web usage mining, user profiling


9 Formal specification for a clinical cyclotron control system

Jonathan Jacky

April 1990 **ACM SIGSOFT Software Engineering Notes , Conference proceedings on Formal methods in software development**, Volume 15 Issue 4Full text available:  pdf(1.15 MB)Additional Information: [full citation](#), [references](#), [index terms](#)

10 Structure of mathematical programming systems

WM. Orchard Hays

January 1968 **Proceedings of the 1968 23rd ACM national conference**Full text available:  pdf(1.47 MB)Additional Information: [full citation](#), [abstract](#), [index terms](#)

A mathematical programming system (MPS), as now implemented on third generation computers, constitutes four separate subject areas: 1. Algorithmic and procedural capabilities 2. Problem formulation and solution techniques 3. Programming languages 4. System structure and use Each of these areas involves extensive considerations and we can not do justice to any of them in the time available. Since problem formulation and solution techniqu ...

11 Link-based ranking 2: Searching the workplace web

Ronald Fagin, Ravi Kumar, Kevin S. McCurley, Jasmine Novak, D. Sivakumar, John A. Tomlin, David P. Williamson

May 2003 **Proceedings of the twelfth international conference on World Wide Web**Full text available:  pdf(231.55 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The social impact from the World Wide Web cannot be underestimated, but technologies used to build the Web are also revolutionizing the sharing of business and government information within intranets. In many ways the lessons learned from the Internet carry over directly to intranets, but others do not apply. In particular, the social forces that guide the development of intranets are quite different, and the determination of a "good answer" for intranet search is quite different than on the Int ...

12 A survey of Web metrics

Devanshu Dhyani, Wee Keong Ng, Sourav S. Bhowmick

December 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 4Full text available:  pdf(289.28 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The unabated growth and increasing significance of the World Wide Web has resulted in a flurry of research activity to improve its capacity for serving information more effectively. But at the heart of these efforts lie implicit assumptions about "quality" and "usefulness" of Web resources and services. This observation points towards measurements and models that quantify various attributes of web sites. The science of measuring all aspects of information, especially its storage and retrieval or ...

Keywords: Information theoretic, PageRank, Web graph, Web metrics, Web page similarity, quality metrics

13 Document Databases: Requirements for XML document database systems

Airi Salminen, Frank Wm. Tompa

November 2001 **Proceedings of the 2001 ACM Symposium on Document engineering**Full text available:  pdf(141.89 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The shift from SGML to XML has created new demands for managing structured documents. Many XML documents will be transient representations for the purpose of data exchange between different types of applications, but there will also be a need for effective means to manage persistent XML data as a database. In this paper we explore requirements for an XML database management system. The purpose of the paper is not to suggest a single type of system covering all necessary features. Instead the pur ...

Keywords: XML, XML database systems, data definition, data manipulation, data modelling, structured documents

14 Finding authorities and hubs from link structures on the World Wide Web

Allan Borodin, Gareth O. Roberts, Jeffrey S. Rosenthal, Panayiotis Tsaparas

April 2001 **Proceedings of the tenth international conference on World Wide Web**Full text available:  pdf(269.01 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: Bayesian, Kleinberg's algorithm, SALSA, authorities, hubs, link analysis, threshold, web searching

15 Does "authority" mean quality? predicting expert quality ratings of Web documents

Brian Amento, Loren Terveen, Will Hill

July 2000 **Proceedings of the 23rd annual international ACM SIGIR conference on Research and development in information retrieval**Full text available:  pdf(773.39 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

For many topics, the World Wide Web contains hundreds or thousands of relevant documents of widely varying quality. Users face a daunting challenge in identifying a small subset of documents worthy of their attention.

Link analysis algorithms have received much interest recently, in large part for their potential to identify high quality items. We report here on an experimental evaluation of this potential.

We evaluated a number of link and content-based algorithms using a dat ...

Keywords: exploiting hyperlink structure

16 Global surveillance: the evidence for Echelon

Duncan Campbell

April 2000 **Proceedings of the tenth conference on Computers, freedom and privacy: challenging the assumptions**

Full text available:  pdf(112.90 KB) Additional Information: [full citation](#), [index terms](#)



17 Authoritative sources in a hyperlinked environment

Jon M. Kleinberg

January 1998 **Proceedings of the ninth annual ACM-SIAM symposium on Discrete algorithms**

Full text available:  pdf(843.14 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



18 Learners as authors: helping ESL employees in a Canadian bank prepare customer relations and documentation material

Paul Beam, Diane Burke

October 1994 **Proceedings of the 12th annual international conference on Systems documentation: technical communications at the great divide**

Full text available:  pdf(941.19 KB) Additional Information: [full citation](#), [references](#), [index terms](#)



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